CLAIMS

1. A personal care product comprising: at least one POSS having a rigid three dimensional cage structure comprising between 6 to 8 Si atoms within its cage structure, at least four of said Si atoms being completely saturated and all of said Si atoms being bound to at least one other of said Si atoms within said cage structure through an oxygen atom, said rigid three dimensional cage structure having at least two completed sides, each of said Si atoms being bound to at least 1 R group with no more than 1 of said Si atoms being bound to more than 2 R groups, said POSS being present in an amount effective to provide a desired degree of a predetermined personal care property; and at least one personal care ingredient, with the proviso that, if said at least one POSS has the structure of Formula I, said POSS molecule is either not completely substituted with methyl groups or the majority of all polyhedral oligomeric silsesquioxanes contained within said personal care product are in the form of a complete cage of Formula I.

2. The personal care product of claim 1, formulated as a sunscreen composition, suntan product, antiperspirant, deodorant, cold cream, moisturizer, cleaner, shampoo, conditioner, dual shampoo/conditioner, rinse, cream rinse, cosmetic, hair coloring, hair dye, bleaching composition, styling product, cleansing cream, soap, perfume and cologne, powder, permanent waving product, relaxers, preshave, shaving cream, shaving product, after shaving product, bath product, self tanning product, bleaching product, and hair shine product

3. The personal care product as in any one of claims 1 and 2, formulated in the form of a liquid, solid, cream, ointment, solution, gel, mousse, stick, cream, spray, powder, emulsion or dispersion

4. The personal care product as in any one of claims 1 and 2, wherein said at least one POSS is present in an amount of at least about 0.005% by weight of said product.

5. The personal care product of claim 4, wherein said at least one POSS is present in an amount of at least about 0.01% by weight of said product.

6. The personal care product of claim 5, wherein said at least one POSS is present in an amount of at least about 0.05% by weight of said product.

7. The personal care product of claim 6, wherein said at least one POSS is present in an amount of at least about 0.10% by weight of said product.

8. The personal care product of claim 7, wherein said at least one POSS is present in an amount of about 40% or less by weight of said product.

9. The personal care product of claim 8, wherein said at least one POSS is present in an amount of about 20% or less by weight of said product.

10. The personal care product of claim 9, wherein said at least one POSS is present in an amount of about 10% or less by weight of said product.

11. The personal care products as in any one of claims 1 or 2, wherein said at least one personal care ingredient is an absorbent, alphahydroxy acid, betahydroxy acid, polyhydroxy acid, antiacne agent, antiperspirant, anticaking agent, antifoaming agent, antimicrobial agent, antioxidant, antidandruff agent, astringent, binder, bleaching agent, buffer, biological additive, bulking agent, carrier, chelating agent, coupling agent, compatibilizer, conditioner, colorant, cosmetic astringent, cosmetic biocide, denaturant, drug astringent, detergent, deodorant, dispersant, external analgesic, emulsifier, film former, foaming agent, fragrance and fragrance component, hair styling ingredient, hair holding ingredient (mousse, spray, etc.), hair conditioner, hair color, hair growth promoter, humectant, keratolytic, moisturizer, straightening agent, oxidizer, mineral and organic particle, plastic, polymer, permanent waving agent, opacifying agent, perfume, pH adjuster, pigment, preservative, protein, retinoid, reducing agent, sequesterant, skin bleaching agent, skin conditioning agent, skin smoothing agent, skin soothing agent, skin healing agent, softener,

solubilizing agent, surfactant, lubricant, thickener, penetrant, permeation enhancer, analgesic, anti-inflammatory agent, antibiotic, anesthetic, plasticizer, salt, solvent essential oil, sunscreen and UV-absorber, vitamin, provitamine, plant extract, ceramide and pseudoceramide.

12. The personal care product as in any of claims 1 and 2, wherein said at least one personal care ingredient is present in an amount of no more than about 99.995% by weight of said product.

13. The personal care product of claim 12, wherein said at least one personal care ingredient is present in an amount of no more than about 99.99% by weight of said product.

14. The personal care product of claim 13 wherein said at least one personal care ingredient is present in an amount of no more than about 99.95% by weight of said product.

15. The personal care product of claim 14, wherein said at least one personal care ingredient is present in an amount of no more than about 99.9% by weight of said product.

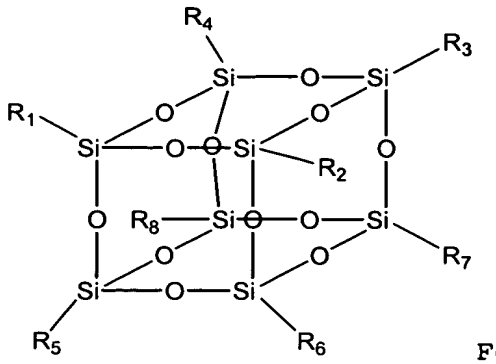
16. The personal care product of claim 12, wherein said at least one personal care ingredient is present in an amount of at least about 10% by weight of said product.

17. The personal care product of claim 16, wherein said at least one personal care ingredient is present in an amount of at least about 60% by weight of said product.

18. The personal care product of claim 17, wherein said at least one personal care ingredient is present in an amount of at least about 80% by weight of said product.

19. The personal care product of claim 18, wherein said at least one personal care ingredient is present in an amount of at least about 90% by weight of said product.

20. The personal care product as in any one of claims 1 and 2, wherein said at least one POSS has structure of Formula I



Formula I.

21. The personal care product of claim 20, formulated in the form of a liquid, solid, cream, ointment, solution, gel, mousse, stick, cream, spray, powder, emulsion or dispersion and wherein said at least one POSS is present in an amount of between about 0.01% and about 40% by weight of said product.

22. The personal care product of claim 21, wherein said at least one POSS is present in an amount of about 20% or less.

23. The personal care product of claim 22, wherein said at least one POSS is present in an amount of about 10% or less.

24. The personal care product of claim 20, wherein said at least one personal care ingredient is an absorbent, alphahydroxy acid, betahydroxy acid, polyhydroxy acid, antiacne agent, antiperspirant, anticaking agent, antifoaming agent, antimicrobial agent, antioxidant, antidandruff agent, astringent, binder, bleaching agent, buffer, biological additive, bulking agent, carrier, chelating agent, coupling agent, compatibilizer, conditioner, colorant, cosmetic astringent, cosmetic biocide, denaturant, drug astringent, detergent, deodorant, dispersant, external analgesic, emulsifier, film former, foaming agent, fragrance and fragrance component, hair styling ingredient, hair holding ingredient (mousse, spray, etc.), hair conditioner, hair color, hair growth promoter, humectant, keratolytic, moisturizer, straightening agent, oxidizer, mineral and organic particle, plastic, polymer, permanent waving agent, opacifying agent, perfume, pH adjuster, pigment, preservative, protein, retinoid, reducing agent, sequesterant, skin

bleaching agent, skin conditioning agent, skin smoothing agent, skin soothing agent, skin healing agent, softener, solubilizing agent, surfactant, lubricant, thickener, penetrant, permeation enhancer, analgesic, anti-inflammatory agent, antibiotic, anesthetic, plasticizer, salt, solvent essential oil, sunscreen and UV-absorber, vitamin, provitamine, plant extract, ceramide and pseudoceramide, which is present in an amount of no more than about 99.995% by weight of said product and no less than about 10% by weight of said product.

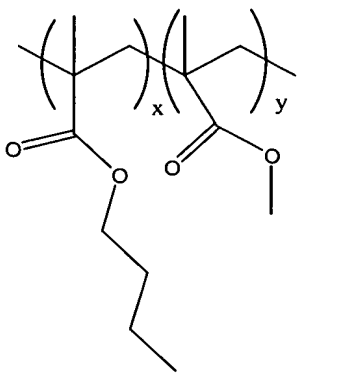
25. The personal care product of claim 24, wherein said at least one personal care ingredient is present in an amount of at least about 60% by weight of said product.

26. The personal care product of claim 21, wherein said at least one personal care ingredient is an absorbent, alphahydroxy acid, betahydroxy acid, polyhydroxy acid, antiacne agent, antiperspirant, anticaking agent, antifoaming agent, antimicrobial agent, antioxidant, antidandruff agent, astringent, binder, bleaching agent, buffer, biological additive, bulking agent, carrier, chelating agent, coupling agent, compatibilizer, conditioner, colorant, cosmetic astringent, cosmetic biocide, denaturant, drug astringent, detergent, deodorant, dispersant, external analgesic, emulsifier, film former, foaming agent, fragrance and fragrance component, hair styling ingredient, hair holding ingredient (mousse, spray, etc.), hair conditioner, hair color, hair growth promoter, humectant, keratolytic, moisturizer, straightening agent, oxidizer, mineral and organic particle, plastic, polymer, permanent waving agent, opacifying agent, perfume, pH adjuster, pigment, preservative, protein, retinoid, reducing agent, sequesterant, skin bleaching agent, skin conditioning agent, skin smoothing agent, skin soothing agent, skin healing agent, softener, solubilizing agent, surfactant, lubricant, thickener, penetrant, permeation enhancer, analgesic, anti-inflammatory agent, antibiotic, anesthetic, plasticizer, salt, solvent essential oil, sunscreen and UV-absorber, vitamin, provitamine, plant extract, ceramide and pseudoceramide, which

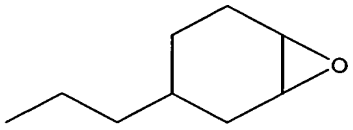
is present in an amount of no more than about 99.995% by weight of said product and no less than about 10% by weight of said product.

27. The personal care product of claim 26, wherein said at least one personal care ingredient is present in an amount of at least about 60% by weight of said product.

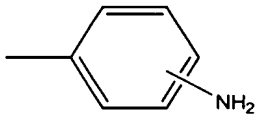
28. The personal care product of claim 20, wherein at least one of R_1 - R_8 is methyl, ethyl, propyl, isobutyl, isooctyl, phenyl, cyclohexyl, cyclopentyl, $-OSi(CH_3)_2-CH_2-CH_2-(CF_2)_5CF_3$, $-(CH_2)_3SH$, $N^+(CH_3)_3$, O^- $N^+(CH_3)_3$, $-OH$, $-(CH_2)_nN^+H_3X^-$ wherein n is 0-30 and X is a counter ion,

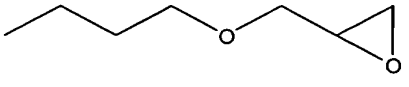


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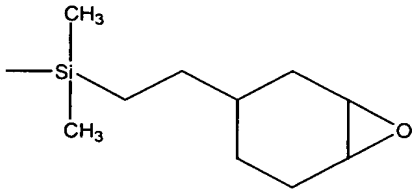


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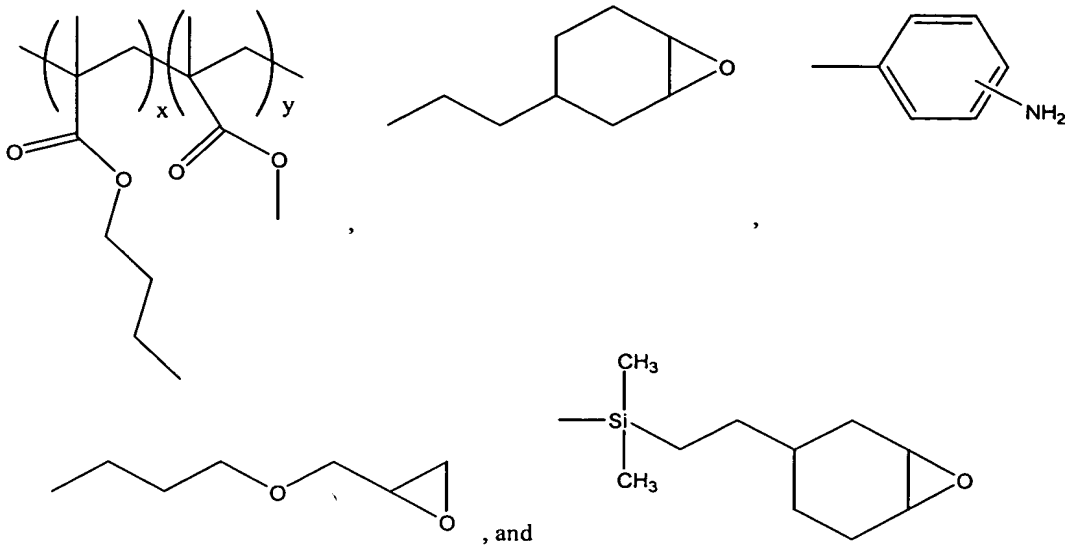




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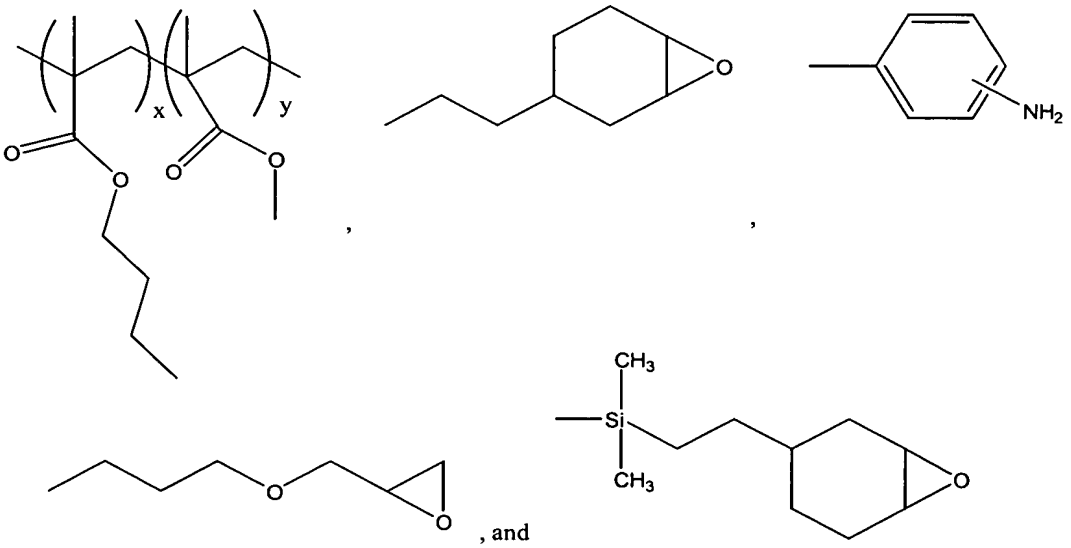


29. The personal care product of claim 28, wherein at least two of R_1 - R_8 are is methyl, ethyl, propyl, isobutyl, isooctyl, phenyl, cyclohexyl, cyclopentyl, $-OSi(CH_3)_2-CH_2-CH_2-(CF_2)_5CF_3$, $-(CH_2)_3SH$, $N^+(CH_3)_3$, O^- $N^+(CH_3)_3$, $-OH$, $-(CH_2)_nN^+H_3X^-$ wherein n is 0-30 and X is a counter ion,



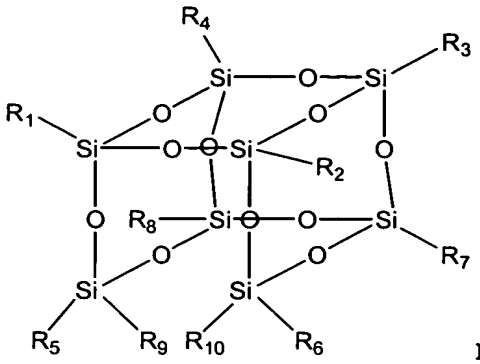
, and .

30. The personal care product of claim 29, wherein at least seven of R_1 - R_8 are is methyl, ethyl, propyl, isobutyl, isooctyl, phenyl, cyclohexyl, cyclopentyl, $-OSi(CH_3)_2-CH_2-CH_2-(CF_2)_5CF_3$, $-(CH_2)_3SH$, $N^+(CH_3)_3$, O^- $N^+(CH_3)_3$, -OH, $-(CH_2)_nN^+H_3X^-$ wherein n is 0-30 and X is a counter ion,

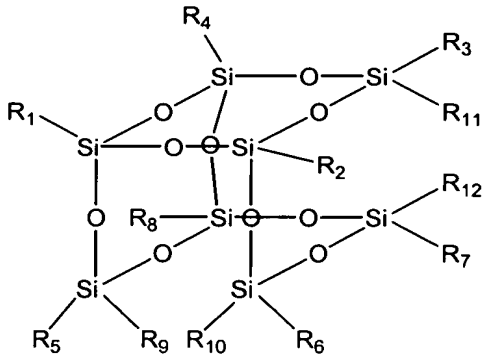


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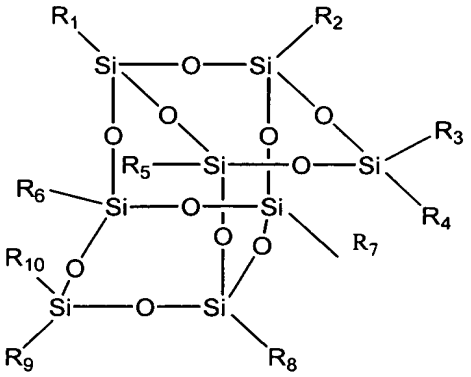
31. The personal care product as in any one of claims 1 and 2, wherein said at least one POSS has structure of Formula II or III



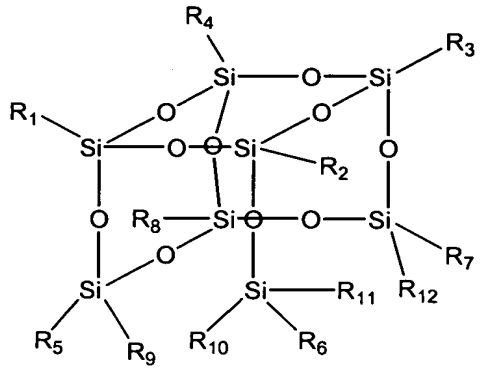
FORMULA IIA



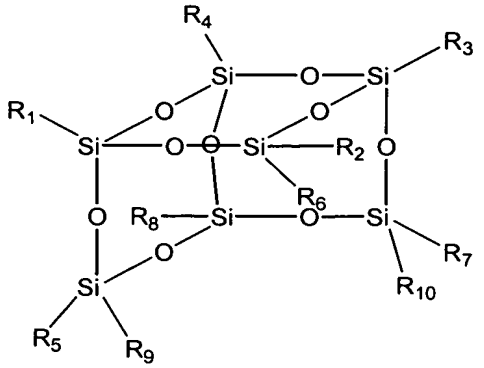
FORMULA IIB



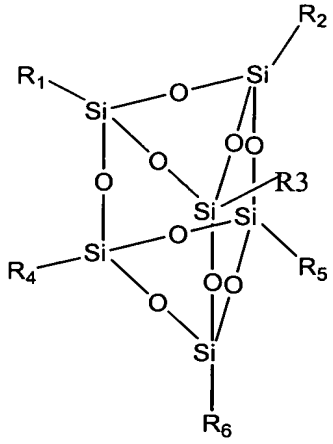
FORMULA IIC



FORMULA II D



FORMULA II E



FORMULA III

32. The personal care product of claim 30, formulated in the form of a liquid, solid, cream, ointment, solution, gel, mousse, stick, cream, spray, powder, emulsion or dispersion and wherein said at least one POSS is present in an amount of between about 0.01% and about 40% by weight of said product.

33. The personal care product of claim 32, wherein said at least one POSS is present in an amount of about 20% or less.

34. The personal care product of claim 33, wherein said at least one POSS is present in an amount of about 10% or less.

35. The personal care product of claim 30, wherein said at least one personal care ingredient is an absorbent, alphahydroxy acid, betahydroxy acid, polyhydroxy acid, antiacne agent, antiperspirant, anticaking agent, antifoaming agent, antimicrobial agent, antioxidant, antidandruff agent, astringent, binder, bleaching agent, buffer, biological additive, bulking agent, carrier, chelating agent, coupling agent, compatibilizer, conditioner, colorant, cosmetic astringent, cosmetic biocide, denaturant, drug astringent, detergent, deodorant, dispersant, external analgesic, emulsifier, film former, foaming agent, fragrance and fragrance component, hair styling ingredient, hair holding ingredient (mousse, spray, etc.), hair conditioner, hair color, hair growth promoter, humectant, keratolytic, moisturizer, straightening agent, oxidizer, mineral and organic particle, plastic, polymer, permanent waving agent, opacifying agent, perfume, pH adjuster, pigment, preservative, protein, retinoid, reducing agent, sequesterant, skin bleaching agent, skin conditioning agent, skin smoothing agent, skin soothing agent, skin healing agent, softener, solubilizing agent, surfactant, lubricant, thickener, penetrant, permeation enhancer, analgesic, anti-inflammatory agent, antibiotic, anesthetic, plasticizer, salt, solvent essential oil, sunscreen and UV-absorber, vitamin, provitamine, plant extract, ceramide and pseudoceramide, which is present in an amount of no more than about 99.995% by

weight of said product and no less than about 10% by weight of said product.

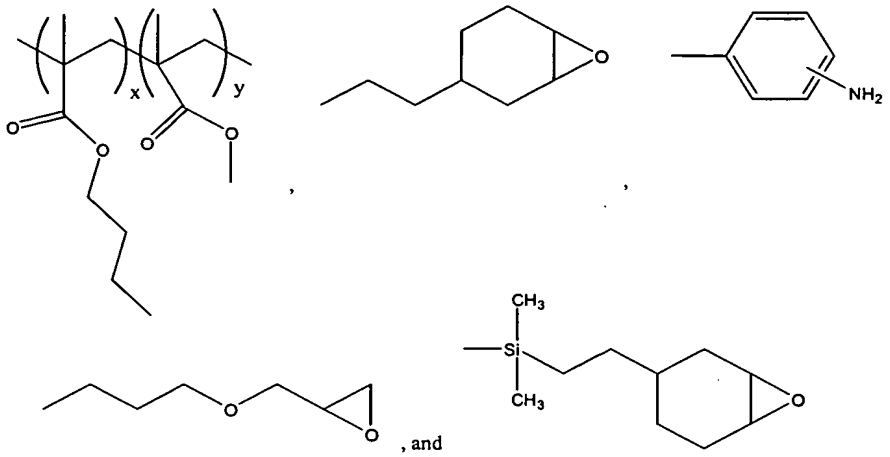
36. The personal care product of claim 35, wherein said at least one personal care ingredient is present in an amount of at least about 60% by weight of said product.

37. The personal care products of claim 31, wherein said at least one personal care ingredient is an absorbent, alphahydroxy acid, betahydroxy acid, polyhydroxy acid, antiacne agent, antiperspirant, anticaking agent, antifoaming agent, antimicrobial agent, antioxidant, antidandruff agent, astringent, binder, bleaching agent, buffer, biological additive, bulking agent, carrier, chelating agent, coupling agent, compatibilizer, conditioner, colorant, cosmetic astringent, cosmetic biocide, denaturant, drug astringent, detergent, deodorant, dispersant, external analgesic, emulsifier, film former, foaming agent, fragrance and fragrance component, hair styling ingredient, hair holding ingredient (mousse, spray, etc.), hair conditioner, hair color, hair growth promoter, humectant, keratolytic, moisturizer, straightening agent, oxidizer, mineral and organic particle, plastic, polymer, permanent waving agent, opacifying agent, perfume, pH adjuster, pigment, preservative, protein, retinoid, reducing agent, sequesterant, skin bleaching agent, skin conditioning agent, skin smoothing agent, skin soothing agent, skin healing agent, softener, solubilizing agent, surfactant, lubricant, thickener, penetrant, permeation enhancer, analgesic, anti-inflammatory agent, antibiotic, anesthetic, plasticizer, salt, solvent essential oil, sunscreen and UV-absorber, vitamin, provitamine, plant extract, ceramide and pseudoceramide, which is present in an amount of no more than about 99.995% by weight of said product and no less than about 10% by weight of said product.

38. The personal care product of claim 37, wherein said at least one personal care ingredient is present in an amount of at least about 60% by weight of said product.

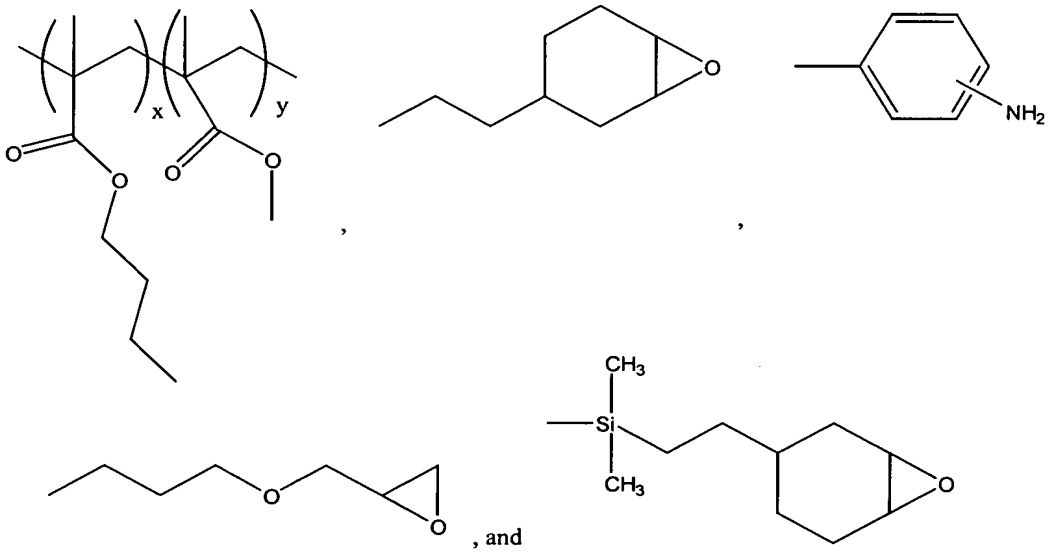
39. The personal care product of claim 30, wherein at least one of R_1 - R_{12} is is methyl, ethyl, propyl, isobutyl,

isooctyl, phenyl, cyclohexyl, cyclopentyl, $-OSi(CH_3)_2-CH_2-CH_2-(CF_2)_5CF_3$, $-(CH_2)_3SH$, $N^+(CH_3)_3$, O^- $N^+(CH_3)_3$, $-OH$, $-(CH_2)_nN^+H_3X^-$ wherein n is 0-30 and X is a counter ion,



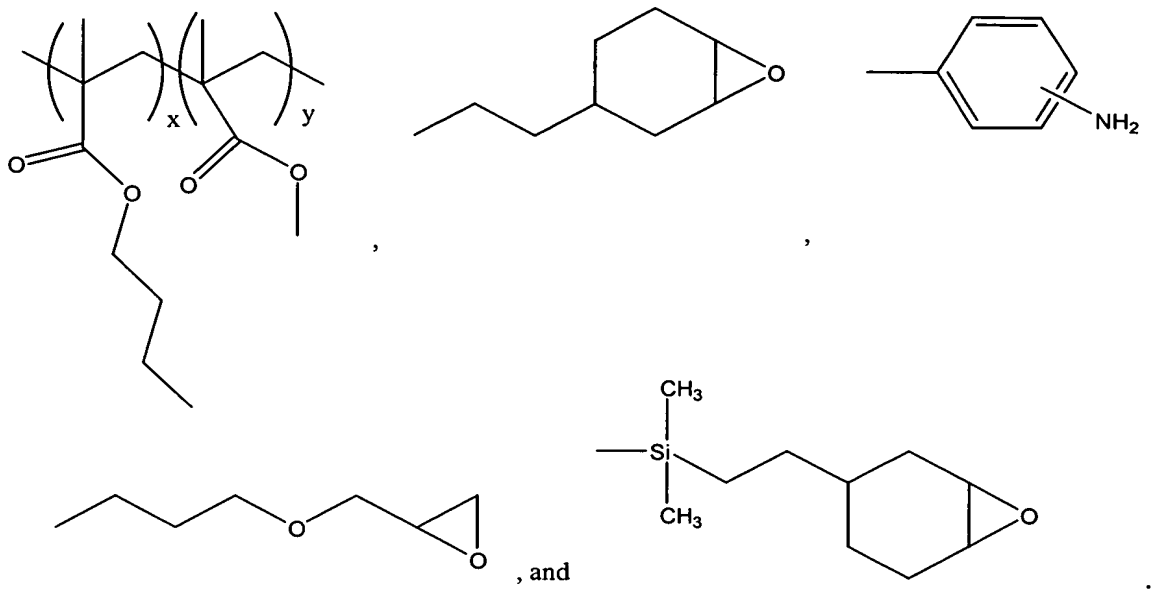
, and .

40. The personal care product of claim 39, wherein at least two of R_1 - R_{12} are is methyl, ethyl, propyl, isobutyl, isooctyl, phenyl, cyclohexyl, cyclopentyl, $-OSi(CH_3)_2-CH_2-CH_2-(CF_2)_5CF_3$, $-(CH_2)_3SH$, $N^+(CH_3)_3$, O^- $N^+(CH_3)_3$, $-OH$, $-(CH_2)_nN^+H_3X^-$ wherein n is 0-30 and X is a counter ion,



, and .

41. The personal care product of claim 40, wherein at least nine of R_1 - R_{12} are is methyl, ethyl, propyl, isobutyl, isooctyl, phenyl, cyclohexyl, cyclopentyl, $-OSi(CH_3)_2-CH_2-CH_2-(CF_2)_5CF_3$, $-(CH_2)_3SH$, $N^+(CH_3)_3$, O^- $N^+(CH_3)_3$, $-OH$, $-(CH_2)_nN^+H_3X^-$ wherein n is 0-30 and X is a counter ion,



, and .

42. The personal care product as in any of claims 1 or 2, wherein said predetermined personal care property imparted by said POSS is conditioning, substantivity, solubility, compatability, film forming, coloring, permeation, adhesion, structure, and UV protection.

43. A shampoo comprising: at least one POSS having a rigid three dimensional cage structure comprising between 6 to 8 Si atoms within its cage structure, at least four of said Si atoms being completely saturated and all of said Si atoms being bound to at least one other of said Si atoms within said cage structure through an oxygen atom, said rigid three dimensional cage structure having at least two completed sides, each of said Si atoms being bound to at least 1 R group with no more than 1 of said Si atoms being bound to more than 2 R groups, said POSS being present in an amount effective to provide a desired degree of a predetermined personal care property; and at least one personal care ingredient, with the proviso that, if said at least one POSS has the structure of Formula I, said POSS molecule is either not completely substituted with methyl groups or the majority of all polyhedral oligomeric silsesquioxanes contained within said personal care product are in the form of a complete cage of Formula I.

44. A nail polish comprising: at least one POSS having a rigid three dimensional cage structure comprising between 6 to 8 Si atoms within its cage structure, at least four of said Si atoms being completely saturated and all of said Si atoms being bound to at least one other of said Si atoms within said cage structure through an oxygen atom, said rigid three dimensional cage structure having at least two completed sides, each of said Si atoms being bound to at least 1 R group with no more than 1 of said Si atoms being bound to more than 2 R groups, said POSS being present in an amount effective to provide a desired degree of a predetermined personal care property; and at least one personal care ingredient, with the proviso that, if said at least one POSS has the structure of Formula I, said POSS molecule is either not completely substituted with methyl groups or the majority of all polyhedral oligomeric silsesquioxanes contained within said personal care product are in the form of a complete cage of Formula I.

45. A conditioner comprising: at least one POSS having a rigid three dimensional cage structure comprising between 6 to 8 Si atoms within its cage structure, at least four of said Si atoms being completely saturated and all of said Si atoms being bound to at least one other of said Si atoms within said cage structure through an oxygen atom, said rigid three dimensional cage structure having at least two completed sides, each of said Si atoms being bound to at least 1 R group with no more than 1 of said Si atoms being bound to more than 2 R groups, said POSS being present in an amount effective to provide a desired degree of a predetermined personal care property; and at least one personal care ingredient, with the proviso that, if said at least one POSS has the structure of Formula I, said POSS molecule is either not completely substituted with methyl groups or the majority of all polyhedral oligomeric silsesquioxanes contained within said personal care product are in the form of a complete cage of Formula I.

46. A mascara comprising: at least one POSS having a rigid three dimensional cage structure comprising between 6 to

8 Si atoms within its cage structure, at least four of said Si atoms being completely saturated and all of said Si atoms being bound to at least one other of said Si atoms within said cage structure through an oxygen atom, said rigid three dimensional cage structure having at least two completed sides, each of said Si atoms being bound to at least 1 R group with no more than 1 of said Si atoms being bound to more than 2 R groups, said POSS being present in an amount effective to provide a desired degree of a predetermined personal care property; and at least one personal care ingredient, with the proviso that, if said at least one POSS has the structure of Formula I, said POSS molecule is either not completely substituted with methyl groups or the majority of all polyhedral oligomeric silsesquioxanes contained within said personal care product are in the form of a complete cage of Formula I.

47. A personal care product comprising: at least one POSS having a rigid three dimensional cage structure comprising between 6 to 8 Si atoms within its cage structure, at least four of said Si atoms being completely saturated and all of said Si atoms being bound to at least one other of said Si atoms within said cage structure through an oxygen atom, said rigid three dimensional cage structure having at least two completed sides, each of said Si atoms being bound to at least 1 R group with no more than 1 of said Si atoms being bound to more than 2 R groups, said POSS being present in an amount effective to provide a desired degree of a predetermined personal care property; and at least one personal care ingredient, with the proviso that, if said at least one POSS has the structure of Formula I, said POSS molecule is not used as a film former.

48. The personal care product of claim 47, formulated in the form of a liquid, solid, cream, ointment, solution, gel, mousse, stick, cream, spray, powder, emulsion or dispersion and wherein said at least one POSS is present in an amount of between about 0.01% and about 40% by weight of said product.

49. The personal care product of claim 48, wherein said at least one POSS is present in an amount of about 10% or less.

50. The personal care product of claim 49, wherein said at least one personal care ingredient is an absorbent, alphahydroxy acid, betahydroxy acid, polyhydroxy acid, antiacne agent, antiperspirant, anticaking agent, antifoaming agent, antimicrobial agent, antioxidant, antidandruff agent, astringent, binder, bleaching agent, buffer, biological additive, bulking agent, carrier, chelating agent, coupling agent, compatibilizer, conditioner, colorant, cosmetic astringent, cosmetic biocide, denaturant, drug astringent, detergent, deodorant, dispersant, external analgesic, emulsifier, film former, foaming agent, fragrance and fragrance component, hair styling ingredient, hair holding ingredient (mousse, spray, etc.), hair conditioner, hair color, hair growth promoter, humectant, keratolytic, moisturizer, straightening agent, oxidizer, mineral and organic particle, plastic, polymer, permanent waving agent, opacifying agent, perfume, pH adjuster, pigment, preservative, protein, retinoid, reducing agent, sequesterant, skin bleaching agent, skin conditioning agent, skin smoothing agent, skin soothing agent, skin healing agent, softener, solubilizing agent, surfactant, lubricant, thickener, penetrant, permeation enhancer, analgesic, anti-inflammatory agent, antibiotic, anesthetic, plasticizer, salt, solvent essential oil, sunscreen and UV-absorber, vitamin, provitamine, plant extract, ceramide and pseudoceramide, which is present in an amount of no more than about 99.995% by weight of said product and no less than about 10% by weight of said product.

51. The personal care product of claim 50, wherein said at least one personal care ingredient is present in an amount of at least about 60% by weight of said product.